

ABSTRACT OF THE DISCLOSURE

Method for selectively reducing mammal neuron damage or death in neuroimmunophilin-rich neurons of central, peripheral, and autonomic nervous systems of a mammal while not reducing damage or death to neuroimmunophilin-poor cells and tissues selected from the group consisting of glia, glia-derived tumor cells, abnormal neuron-derived tumor cells, non-brain tumors, and non-neuron tissue of the body from ionizing radiation. The method includes preparing a dosage of a neuroimmunophilin ligand selected from the group consisting of cyclosporins and functional derivatives, metabolites, variants, and salts thereof which are able to cross the blood-brain barrier. The dosage is from an effective amount to less than 1 gr/kg of body weight of said mammal. The method includes the step of administering that dosage to the mammal before, coincident with, or after ionizing radiation of the mammal. The dose is administered the same day as, but not later than one week after, last radiation exposure.